

REMARKS:

Claims 1, 5, 17 and 18 were rejected under 35 USC 102(b) as anticipated by Thacker as evidenced by Buser.

In response, applicant encloses herewith an affidavit from Mr. Jeffrey Hart who worked on the development of the feed product described in the instant application.

As discussed therein, the Thacker reference describes an early version of the product, not the one described in the instant claims. Specifically, as discussed at paragraph 6, the feed product used by Thacker was a coarse grind (1100-1300 microns) of the pulse product, not a fine grind pulse product ground to a consistency such that at least half of the pulse crop product has a diameter of 5 microns or less.

As discussed throughout the affidavit, there were several reasons that this was done: animal preference (paragraph 7); efficiency and capacity (paragraph 8); ease of handling (paragraph 9); and homogenous end product (paragraph 10). Thus, applicant initially believed that a product comprising a coarse ground pulse product would produce a homogenous end product which would be preferred by the livestock. They further believed that a feed product comprising a finely ground pulse product would produce a non-homogenous end product which would be rejected by the feeding livestock and that finely grinding the pulse product would be expensive in terms of increased maintenance for the equipment and reduced capacity due to the increased grinding times and would result in lost product due to handling difficulties.

As discussed in paragraph 13, the Thacker trial showed a slight improvement in feed conversion when the feed product prepared with the coarsely ground pulse product was used. As discussed therein, the lowered protein and energy content should have resulted in lower feed conversion but that was not the case. Accordingly, applicant set out to determine how this effect could be increased.

As discussed in paragraph 14, applicant considered modifying the heat and pressure parameters first and believed that the large particle size of the coarsely ground pulse product was critical for protection the oil from the oil seeds from degradation in the upper digestive tract. Accordingly, as discussed in paragraph 16, applicant in fact increased the size of the pulse product to approximately 1500 microns, expecting that this would reduce costs slightly and also improve the product. However, applicant surprisingly found that the larger particles had low oil absorption, was difficult to handle and was not 'enjoyed' by the livestock. It is at this point, approximately October 2003, after the publication of the Thacker reference, that applicant began to realize the importance of particle size on the final product.

Specifically, as discussed in paragraph 17, applicant was surprised to discover that the more finely ground pulses resulted in increased gelatinization during the extrusion process. Furthermore, as discussed in paragraph 19, while applicant did see an increase in maintenance costs and a reduction in capacity, the dramatic improvement in the product more than justified the additional expense.

It is believed that the criticality of the particle size and the surprising nature of this discovery are supported by the enclosed affidavit and throughout the application as originally filed, for example, at least at page 8, lines 6-25.

In summary, the enclosed affidavit establishes that the product tested by Thacker was an early version of the product in which coarsely ground pulse crop was used. Several modifications were made to the process to attempt to maximize the small effect detected by Thacker and applicant was surprised to discover that contrary to expectation, significantly decreasing the size of the pulse powder resulted in a significantly improved product which more than justified the additional cost associated with additional grinding and loss of product.

Claim 6 was rejected under 35 USC 103(a) as unpatentable over Thacker as evidenced by Buser.

It is believed that the arguments forwarded above overcome this objection as well.

Claims 1, 5-8, 17 and 18 were rejected under 35 USC 103(a) as unpatentable over Glinsky in view of Nahm in further view of Hodgson in further view of Thacker.

The office action states that neither Glinsky nor Nahm teach the ground pulse crop diameter. The office action further states that Hodgson teaches the preparation of bread using pea bran that is ground to a size similar to flour, about 5 to 25 microns in diameter.

Applicant notes that Glinsky teaches a method of manufacturing pet food in which the ingredients are mixed to a homogenous dough and then passed through an extruder, which is not applicant's invention in which intact oil seeds are mixed with a finely ground pulse crop and extruded.

Nahm teaches a method of preparing fibrous green food pieces which are then added to pet food. That is not applicant's invention and as noted by the examiner, Nahm is silent as to the size of the ground peas.

Applicant further notes that Hodgson teaches a method of preparing pea bran for use in the preparation of bread and that the pea bran is pre-gelatinized prior to use in the bread product.

As such, it is not clear that there would be any incentive to combine Glinsky, Nahm and Hodgson, nor is it clear what product would result. Specifically, given that Glinsky is preparing a homogenous dough prior to extrusion, one of skill in the art might add the pre-gelatinized ground pea bran taught by Hodgson to the dough. That however would not produce applicant's invention. Alternatively, one of skill in the art might substitute the pea bran taught by Hodgson into Nahm's mixture for the preparation of the fibrous green food pieces. That however would not produce applicant's invention.

Specifically, as discussed in the accompanying affidavit, the prior art teaches that particles of similar sizes should be mixed together when preparing animal feed or pet food. This is supported by tables I and IIa of Nahm in which soybean meal is mixed with meat and bone meal or ground peas. Glinsky

teaches that the ingredients are mixed to a homogenous dough prior to extrusion. Hodgson teaches a mixture of pre-gelatinized oat bran, pre-gelatinized pea bran and soy flour for preparing bread products. However, there is no teaching or suggestion in the art of combining intact oilseeds with a finely ground pulse crop powder as taught by applicant.

Claims 1, 5-8, 17 and 18 were rejected as anticipated by Vanvolsem.

It is noted that Vanvolsem teaches in paragraphs 0021 and 0033 teaches that the ingredients are ground (broyes) and then mixed (melanges). Accordingly, Vanvolsem teaches grinding the linseed, wheat and legumes individually, mixing them and then extruding them. This is in contrast with applicant's invention in which intact oilseed are used in the extrusion process. It is further noted that Vanvolsem is silent as to the degree of grinding. Accordingly, applicant believes that it is logical to assume that absence evidence to the contrary, Vanvolsem is preparing coarser grounds than applicant, due to the ease of handling and increased capacity compared to a more finely ground product, as discussed above and in the accompanying affidavit.

Thus, Vanvolsem teaches grinding of oil seeds which applicant notes will result in the loss of the desirable oils and furthermore is silent on the use of a fine powder.

In view of the foregoing, further and more favorable consideration is respectfully requested.

Respectfully submitted

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MRW/  
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